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Letter: Desiccated Thyroid Extract Causes Nonphysiologic T_3 Peaks

To the Editor:

Hoang and associates once again raise the old question of a possible place for animal sources of desiccated thyroid extract (DTE) in the treatment of hypothyroidism (1). They stimulate new discussion but do not seem to break new ground. Of the 70 patients in their 16-week crossover study comparing DTE with l-thyroxine (L-T_4), 49% preferred DTE and reported a subjective improvement in quality of life, although there were no statistically significant differences between the groups on psychometric testing. Those preferring DTE also had a 3- to 4-lb weight loss, but started with higher mean body weights than those in the L-T_4 group (178.95 lb vs. 162.80 lb). Thyroid biochemical tests were within normal ranges in both groups. However, serum T_3 levels were statistically higher ($P<0.001$) in the subjects who preferred DTE when measured just before the once-daily dose of DTE (at the expected daily nadir). In the only 2 subjects given DTE who had T_3 measured both before and again 3 hours after DTE administration (near the expected T_3 peak levels) serum T_3 rose 23% and 36%. Such nonphysiologic changes in serum T_3 after DTE administration and resultant risks have long been known (2) and are the subject of concern (3). While Hoang et al. do briefly mention possible cardiovascular risks from these T_3 changes in the body of their report and in their supplementary data, they do not comment on such risks in their abstract, nor do they discuss potential adverse effects on bone turnover at all.

Exploring a role for DTE in the treatment of hypothyroidism with a well-designed, blinded, randomized clinical trial is laudable. However, when evaluating a therapy for a condition that affects millions of patients and for which an effective treatment already exists (4), this clinical trial should be powered and designed to detect adverse consequences. When the goal is physiologic replacement, care also needs to be exercised that normal physiology is restored. The study of Hoang and colleagues is provocative, but it does not achieve the minimum standard required to alter current clinical practice.

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